

# On Hilbert schemes of scrolls of genus $g$

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In this talk I will report on some recent results, obtained in collaboration with A. Calabri, C. Ciliberto and R. Miranda, concerning the study of Hilbert schemes parametrizing smooth surface scrolls of (sectional) genus  $g$  and degree  $d$ , which are linearly normal in their projective span. If time permits, I also want to discuss some connections with degenerations of surfaces as well as with applications to the study of families of degree  $d$  rank-two vector bundles on a curve of genus  $g$  with general moduli.